PET BLANKET

Cross Reference to Related Applications and Claim for Foreign Priority

[0001] This application is a continuation of International Patent Application Number PCT/GB01/00431, filed February 2, 2001, and claims foreign priority benefits from Great Britain Patent Application Number 0002635.1, filed February 7, 2000. The entire contents of the prior applications is incorporated herein by reference.

Field of the Invention

[0002] This invention relates to blankets for animals and in particular, to pet blankets having anti-flea properties.

Background of the Invention

[0003] Flea infestation of animals can be both very troublesome to the animals suffering therefrom, as well as to any other animals or humans coming into contact therewith. If flea infestations are left untreated, they can lead to substantial hair loss and irritation of the skin of the affected animal. If particularly prevalent or left untreated for a long period of time, such infestations can lead to anemia or even death of the animal through blood loss and subsequent weakness to the animal caused by the parasitic nature of the fleas.

[0004] Treatment of infested animals varies, but generally, they are treated with flea sprays or powders. The disadvantage of this is that the anti-flea product has to be applied in a well ventilated area as the active ingredients can cause irritation to the eyes or respiratory tract of the human applying the product. Furthermore, treatments often have to be repeated each time fleas reappear, and this frequently results in treatment at weekly intervals.

[0005] In addition, anti-flea sprays and powders cannot be used on sick and convalescing animals as they could be detrimental to their health. Therefore, it is necessary for such animals to be treated only by a veterinary surgeon which can be very costly to the pet owner. Moreover, in the case of young animals, pregnant and nursing females, in order to prevent adverse effects to the unborn or newly born animals, the fleas should be removed by use of a flea comb.

[0006] Furthermore, if the pet is an indoor pet, a flea infestation almost certainly will also lead to infestation of household soft furnishing and carpets. Home infestations must be treated in a manner similar to an animal infestation, whereby the infected furnishings and carpets must be treated with an appropriate insecticide and subsequently thoroughly vacuumed in order to prevent re-infestation. Accordingly, it is easier for the animal owner to try and prevent flea infestations of their pet, as well as their home, rather than having to treat an infestation. In light of this, treatment of the home should be carried out on a routine basis, in order to prevent infestation by fleas carried into the house by their animals. These measures are laborious, time-consuming and expensive, especially where several rooms in the home must be treated.

[0007] Other preventative measures include treating the animal's bedding and basket with a suitable insecticide. Application of the insecticide must, of course, be carried out at regular intervals in order to remain effective. The insecticide must also be reapplied each time the bedding is washed. Again, these measures are also very laborious, and many owners will neglect to maintain the appropriate frequency of re-application, thereby reducing the efficacy of the insecticide.

[0008] The use of flea collars is another familiar treatment, although these have been shown to have limited success. In cats, for example, flea collars often become slack through use, and, not only may they be removed by the animal, they can cause injury should the animal's front leg become trapped therein. Such injuries might include burns or tears in the skin under the trapped leg. The disadvantages of flea collars are quite common, as many owners neglect to replace the collar at appropriate intervals.

Summary of the Invention

[0009] It is a purpose of the present invention to provide an improved alternative to currently used flea treatments, wherein the invention obviates or mitigates the aforementioned disadvantages and shortcomings of known flea treatments. According to the principles of the present invention, a pet blanket having anti-flea properties is provided.

[0010] In one embodiment, the pet blanket comprises two layers of material, constructed so as to form a selectively closeable pocket. While the blanket will most commonly be in the shape of a square or rectangle, any shape may, of course, be used. In addition, while the blanket may also be of any suitable dimensions, the size of the blanket will be dependent upon the size of the pet for which it is being used. Approximate dimensions of a pet blanket for an average canine might be 45 cm by 60 cm, and for an average feline, 45 cm by 45 cm.

[0011] A first layer of the blanket is made from a permeable material and the second layer is made from an impermeable material. The blanket further comprises at least one insert for selective insertion into the closeable pocket. The insert is preferably comprised of an absorbent material that has been pre-treated with an emollient ester-based mixture containing at least one anti-flea agent. Preferably, the absorbent material is such that it allows for optimum dispersal of the anti-flea agent(s) throughout the insert. In this manner, when the insert is placed within the pocket, and the animal comes into contact, *e.g.*, lies down on the permeable layer of the blanket, an optimal area of the animal's body will be exposed to the anti-flea activity of the anti-flea agent(s).

Detailed Description of the Invention

[0012] Accordingly the principles of the present invention provide various embodiments of a pet blanket comprised of two layers of material adapted such that together, they form a closeable pocket which is adapted to receive an insert formed of an absorbent material and that has been treated with one or more anti-flea agents. In the context of this invention, the term "anti-flea agent" is intended to included compounds having flea repellent properties, as well as those that are toxic and fatal to fleas.

[0013] The upper layer of the blanket, upon which the animal lies, is made of a permeable material, that is also preferably warm and comfortable for the animal. Example of suitable materials include, but are not limited to: wool, synthetic wool, fleece or fleece-type materials. The choice of a warm and comforting material will encourage the pet to lie and/or sleep on the pet blanket, and thereby be exposed to the anti-flea treatment.

[0014] The lower layer of the blanket, which contacts the floor or basket upon which the blanket lies, is made from an impermeable material, that is preferably waterproof. Such materials might include, for example, plastic laminate or plastic-coated materials such as cotton or nylon. While other appropriate materials will also be easily recognized by the person of skill, a preferred material is polyvinyl chloride (PVC)-coated nylon.

[0015] As previously indicated, the upper and lower layers of material are adapted such that together they form a closeable pocket. Preferably, the two layers of material will be attached at the full length of their perimeter, but for a portion thereof, such that an opening to the interior pocket is provided. The opening is provided with any appropriate closure, such as, for example, hooks or other fixing means. In addition, the opening is preferably of a dimension slightly smaller than that of the insert, such that the insert should be adapted to flex, in order to pass through the opening into the pocket.

[0016] With regard to the insert, which is preferably constructed to have the same dimensions as the interior of the closeable pocket, it is preferably formed of an absorbent or open-celled material, such that the insert provides a multitude of reservoirs for containing the anti-flea agent(s) within the insert. Suitable materials may include, but are not limited to, an open-cell foam or foam-like material, such as, for example, a polyurethane foam; or an absorbent matting, such as, for example, a natural cellulose or a synthetic polyester mesh.

[0017] As previously stated, the dimensions of the insert should be slightly smaller than those of the opening to the pocket, and should be substantially the same as those of the pocket. In this way, the insert may be flexed to pass through the opening and upon full insertion, it will return to its normal or "unflexed" form, and then be unable to readily pass out through the opening without again being flexed and physically removed from the pocket.

[0018] As described, the insert will be impregnated with at least one anti-flea agent, although a combination of agents is often preferred. Impregnation of the insert can be carried out by various standard techniques well known to those skilled art.

[0019] In a preferred embodiment, impregnation is achieved by mixing the active agent(s) with an emollient ester-based mixture, which is then sprayed onto the insert. Due to the open-celled or absorbent nature of the insert material, dispersal of the active ingredient(s) throughout the insert is achieved.

[0020] Suitable anti-flea agents may include, but are not limited to, long or short-acting anti-flea regulators. These agents may comprise insect growth regulators, which act by inhibiting the life cycle of the insect and thereby interrupting proliferation, either alone or in combination with adulticides, which are immediately fatal to the insect. A preferred insect growth regulator is methoprene, Potential anti-flea agents include, but are not limited to: fipronil, lufenuron, imidacloprid, pyriproxyfen, diflubenzuron, telflubenzuron, triflumuron, flufenoxuron, hexaflumuron, buprofezin, pyrethrum, pyrethrin, pyrethroids and carbamates. A preferred combination comprises the agents methoprene and permethrin.

[0021] Preferably, the insert system will provide a slow release of the anti-flea agent(s), such that release is dependent upon use of the blanket by the pet. For example, release of the active agent(s) might be activated by the weight of the animal as it reclines on the blanket.

[0022] Slow or controlled release of the active agent(s) will provide an increased duration of activity of the anti-flea agent(s). In light of the known activity of common anti-flea agents, it might be anticipated that the insert would be replaced approximately every six months.

[0023] During use, *i.e.*, when the animal is reclined on the pet blanket of the present invention, the anti-flea agent(s) diffuse from the insert, through the permeable upper layer of the blanket and onto the animal. Depending upon the nature of the anti-flea agent(s), the flea population will be eradicated immediately in the case of an adulticide, or over a period of time in the case of an insect growth regulator.

[0024] Accordingly, one can easily recognize several advantages that are achieved with the pet blanket of the present invention. First, the impregnated insert may be easily removed so that the blanket layers can be washed without diluting the anti-flea effect(s) of the active agent(s). Second, the use of a permeable upper layer allows the active agent(s) to diffuse therethrough, while the use of an impermeable lower layer prevents loss of the agent(s) onto the basket, ground or other surface on which the pet blanket is placed.

[0025] Moreover, as the insert is easily removable, the two layered blanket may be reused repeatedly, with a number of inserts. The life of the blanket will be determined by conditions external from the blanket itself, *e.g.*, amount of use or location of use, while the life of the insert will be determined by depletion of the anti-flea agent(s) through the permeable upper layer.

[0026] Most importantly, however, the pet blanket of the present invention ensures repeated and routine exposure of the animal to suitable anti-flea agents, as the animal receives a dose of the agent(s) each time it lies down on the blanket.

[0027] While the present invention has been described in terms of specific detailed embodiments, it will be appreciated by those skilled in the art that modifications or changes are possible without departing from the spirit of the invention described and taught herein. Such changes and modifications are therefore deemed to be within the scope of the this invention and encompassed by the following claims.